

## CALFED DELTA TECHNICAL INTEGRATION FORUM MEETING

MARCH 17, 2004

### DRAFT SUMMARY

On March 17, 2004, 18 agency and organizational representatives attended the second CALFED Delta Technical Integration Forum Meeting, convened by Rick Sitts, Lead Bay/Delta Biologist of the Metropolitan Water District of Southern California (MWDSC). They met in the Delta Room of the CALFED Bay-Delta Authority. Attendees were:

|                   |                |                   |                          |
|-------------------|----------------|-------------------|--------------------------|
| Marina Brand      | CDFG           | Ron Ott           | CBDA                     |
| Sam Harader       | CBDA           | Jim Ragan         | MWDSC contractor         |
| Lauren Hastings   | CBDA           | Pal Sandhu        | DWR                      |
| Darrell Hayes     | CBDA           | Curt Schmutte     | DWR                      |
| Lisa Holm         | CCWD           | Rick Sitts        | MWDSC                    |
| Paul Hutton       | MWDSC          | Lynda Smith       | MWDSC                    |
| Marianne Kirkland | DWR            | Bernice Sullivan  | Friant Water Users Auth. |
| Dan Kurosaka      | DWR            | Bob Twiss (phone) | CALFED Science Board     |
| Dan Odenweller    | NOAA Fisheries | Frank Wernette    | DFG                      |

The meeting topics were: review of the minutes from the January 17 meeting; UOP summary; Science Board update; web site description; decision analysis pilot study proposal; interactions matrix and program element descriptions; and new information, common analyses, tools, and metrics of Delta evaluations for the North Delta Flood Control and Ecosystem Restoration Project, Yolo Bypass, Water Quality, In-Delta Storage, and ERP.

### JANUARY 21 MEETING MINUTES

Some attendees proposed changes to the minutes, which the group accepted. The revised minutes will be posted on the web site.

### UOP SUMMARY

Paul Hutton summarized the technical analyses of the UOP actions.

**Key Metrics.** He presented a summary of the key metrics and locations for analyzing South and Central Delta water levels and depth, South Delta circulation (surrogate for water quality), and Delta and Vernalis water quality (measured by electrical conductivity). Measurements are year-round. The tools are CALSIM2, DSM2, and FDM. CALSIM is limited on the San Joaquin River upstream of Vernalis. The Bureau of Reclamation has awarded a contract to update CALSIM. We are waiting for the contract's completion.

UOP is treating the Stockton Ship Channel dissolved oxygen issue as an incidental benefit, not a project objective. Barrier operations are a key in solving the dissolved oxygen problem.

**Types of Analyses.** There are three, all based on 8500 at Banks. The level of sophistication varies:

- South Delta salinity and water levels—the barrier operations. The analysis is very sophisticated and refined. We understand the mechanisms.
- Recirculation, salt load management, and GNC. The level of sophistication isn't very sophisticated. There is a potential for source control, but we're just starting to work on it. We're looking at whether there is a carriage water component at New Melones.
- Central Delta salinity—implementation of a project such as Frank's Tract. We don't yet have a true project description of Frank's Tract.

### **Questions/Comments and Responses**

- ◆ What is the water quality target at Old River?

*Response.* Over time, we'll move toward a more stringent standard, but we don't have numbers yet.

- ◆ The regional board has done work on water quality modeling in the valley (TMDL). The goal is to meet the Vernalis standard. Are you working with the regional board?

*Response.* Yes, we're linking closely.

- ◆ Are you planning to issue a report to show your results? That will help us.

*Response.* Yes, we will make available our information.

- ◆ What are your geographical boundaries?

*Response.* The South Delta (barrier operations) and the Central Delta. We're not looking at the West Delta or the North Delta. We're not including the main San Joaquin. We're looking at Jersey Point only as to how our actions might affect it. Our next step is to put recirculation, Frank's Tract, and source control into CALSIM. We can then run a Delta simulation. The process is ongoing.

- ◆ Is your time focus year-round?

*Response.* Yes. All the pieces fit together: the three agricultural barriers are, in some fashion, year-round; recirculation would be from July to September; source control would be in the winter and early spring; and preliminary modeling shows that Frank's Tract would be in the fall.

- ◆ Are you addressing fishery concerns re the barriers and Frank's Tract? Recirculation could affect salmon in June and July.

*Response.* We are addressing fishery concerns.

- ◆ Your tools would be useful to wildlife agencies in finding out whether the water agencies are dealing with fishery concerns. Will the tools be available to wildlife agencies?

*Response.* Yes.

- ◆ Do you have water quality data on recirculation?

*Response.* Yes. CALSIM has data on Rock Slough. From that, we made assumptions for Banks and Tracy. Dave Schuster is approaching it from a different side.

## **SCIENCE BOARD UPDATE**

Bob Twiss of the CBDA Independent Science Board (ISB) and ERP Science Board updated the group. The ERP Science Board is still grappling with simulation-level modeling. There has been a discussion of the potential of biological models. The ERP Science Board will invite Delta Technical Integration Forum representatives to brief the Board. Bob Twiss, CBDA ISB, Jeff Mount, CBDA ISB, and Curt Schmutte, DWR, had a useful meeting on levee system integrity, how uncertainty is being handled, seismic studies, and GIS layers.

## **TECHNICAL INTEGRATION FORUM WEB SITE DESCRIPTION**

Darrell Hayes described the web site. To reach it, go to the CALFED home page (Calwater.ca.gov) and click on the Delta map. Participants discussed the content. They agreed that it should contain:

- A description of the forum.
- Links to projects.
- Forum meeting minutes (after giving participants five days to comment on the draft of each meeting). The minutes will, however, always be labeled "draft" to allow for subsequent changes.

### **Action Item**

- (1) Post on the web site a description of the forum, links to projects, and the meeting minutes.

## **DECISION ANALYSIS AND A STRATEGIC DECISION METHODOLOGY**

Following up on an action item at the January 21 meeting (explore the possibilities in applying the approach on a pilot basis) Ron Ott, Claire Danielle Tomkins, Dan Odenweller, Rick Sitts, and Bob Twiss met. Claire developed a proposal based on their discussion (submitted at the March 17 meeting). The immediate objective of this pilot study is to introduce a strategic decision methodology to greatly enhance the decision-making process by 1) clearly presenting all the alternatives; 2) identifying the key variables, or uncertainties, driving the decision; and 3) constructing a defensible decision model to explore the impacts of these key variables on the decision. Ott said that he is still looking for funding.

### **Questions/Comments and Responses**

- ◆ The North Delta Flood Control and Ecosystem Restoration Project has used a "balanced-beam" approach with stakeholders in examining alternatives and their impacts. Perhaps we could apply the pilot study to this project. Funding may be available through this project.
- ◆ This Decision Analysis and Strategic Decision Methodology might simplify things too much by reducing everything to numbers.  
*Response.* It's just a tool—something managers and scientists can work on together. It helps identify tasks to move the decision-making process along. But we do need to work on describing it and its potential better.
- ◆ What decision are you talking about? How do you tie the process and results to NEPA and CEQA?

*Response.* The methodology would allow us to look at all the variables, trade-offs, uncertainties, and all the things that are important. Only an integration tool, it doesn't say, "this is the best alternative."

## **DRAFT INTERACTIONS MATRIX AND PROGRAM ELEMENT DESCRIPTIONS**

Forum members discussed the utility of the draft DCCTDF Integration Matrix with Other Programs (3/13/04) and the draft Project/Program Descriptions and Notes on Integration (February 2004) prepared by Jim Ragan based on previous group discussions and presentations. Some members questioned whether they should continue to be a forum focus.

### **Questions/Comments and Responses**

- ◆ The BDPAC Ecosystem Subcommittee is trying to produce its own matrix, looking at the relationship among programs: who has the same objectives. It is still a work in progress.
- ◆ The DCCTDF Integration Matrix with Other Programs may no longer work, given the forum's expanded focus.
- ◆ The matrix compares projects and programs: "apples and oranges." You have to go with either programs or projects, but not both in the same matrix.
- ◆ We should start with a project or issue. Work on each in a meeting or two from the standpoint of integration.
- ◆ What can we meaningfully do to talk about technical integration? We need to understand the modeling that's going on and the results. Is there an effort under way to integrate the models?
- ◆ This forum needs a work plan consisting of:
  - A goal statement.
  - Objectives (what we hope to learn).
  - What steps do we need to take to get there?
  - What are the broader implications?This is important for us to commit our time.

### **Action Item**

- (2) Ott and Sitts will develop and circulate a draft work plan addressing the four items above for discussion at the next forum meeting.

## **NORTH DELTA FLOOD CONTROL AND ECOSYSTEM RESTORATION PROJECT**

Addressing project integration, Curt Schmutte presented how the project is trying to integrate many components and issues. He presented a poster graphic that is available on the web at the following site:

<http://baydeltaoffice.water.ca.gov/ndelta/northdelta/poster.htm>

Schmutte said that the "super eight issues"—subsidence, seismic, sediment, salt, carbon, exotics, mosquitoes, and mercury—cross many boundaries. "There is a connection in everything we do." The big issues are carbon and seismic.

### Questions/Comments and Responses

- ♦ Is there a North Delta project integration with the South Delta project?

*Response.* Certainly with Frank's Tract.

### YOLO BYPASS

Marianne Kirkland described the project. It's in the northern area of the Delta—a natural floodplain. Yolo Bypass is mainly for flood conveyance. Flood flows come from the Fremont Weir, the Sacramento Weir, and four tributaries. Current land uses are agriculture, wildlife, and fish.

The Yolo Bypass Project is one of adaptive management to enhance native fish populations, discourage exotic species, increase habitat diversity, and increase food web input.

Performance metrics regarding native fish populations are fish health (size and contaminant content), number of native fish, and percentage increases. Factors that influence native fish are seasonal inundation and substrate and vegetation.

Performance metrics for decreasing exotics are numbers, population levels, and the number of acres inhabited by exotics.

In striving to increase (but not maximize) habitat diversity, the major questions are: What habitats are appropriate? What populations are best? What is the best scale of mosaics? There are no clear answers. Current habitat consists of tidal channels/riparian, grassland, agriculture, and open water.

Performance metrics for increasing food web inputs require answering these questions: How much of what? Native or non-native? How much is beneficial and to whom?

The project approach is to collect baseline data, implement pilot projects, monitor, analyze monitoring data to detect changes, define specific goals a priori when possible, and identify other targets.

The project hydrology comprises four scenarios, from very dry to very wet years: no flow augmentation, fully controlled flow, partially controlled flow, and uncontrolled flow.

The project includes conceptual models for target species: chinook, splittail, shorebirds, and other. Simulation tools are a hydrologic model of bypass-wide events, a splittail model, and a low-flow model. Target research addresses hydrology, sediments, water quality, and biological studies.

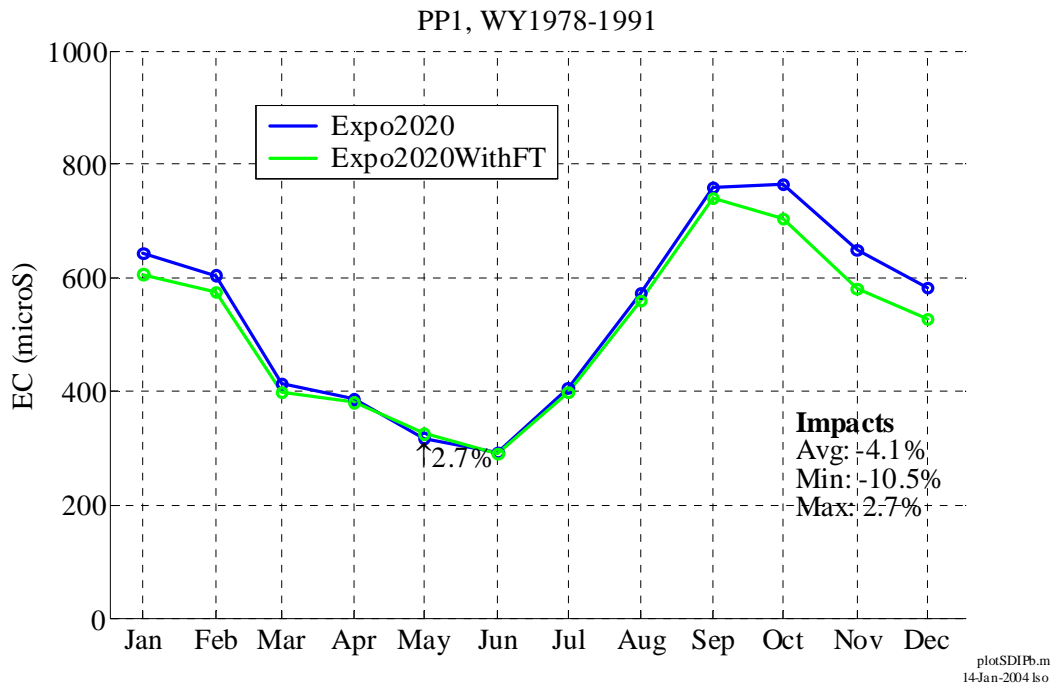
Many agencies and others are involved: DWR, DFG, USGS, USFWS, USACE, UCD, UCB, the Yolo Basin Foundation, the Reclamation Board, and consultants.

### WATER QUALITY METRICS FOR EVALUATION OF DELTA PROJECTS

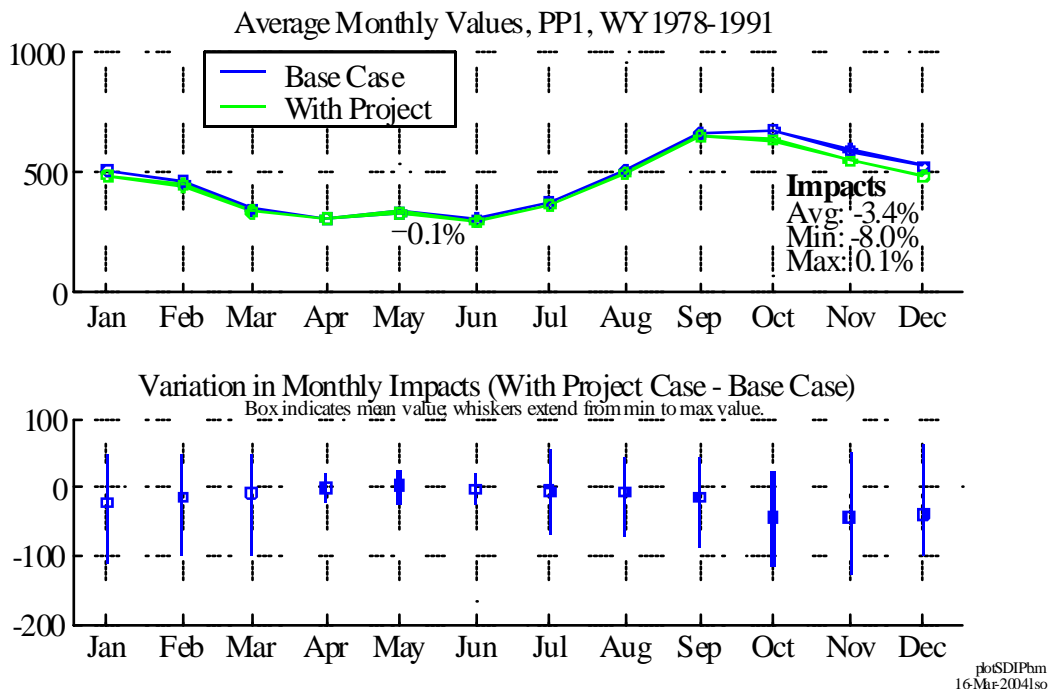
Lisa Holm presented a *draft* paper. The key concern for water quality agencies is understanding the changes in concentration and timing of key drinking water constituents at drinking water intakes. Loading (e.g., tons of TDS per year) may not be a useful metric because annual loading doesn't address seasonal variability in constituent concentration, and loading calculations necessarily involve assumptions about operations (amount and timing of pumping). Operations can depend on water quality, so loading can be a misleading measure of impacts.

We need metrics that will steer decision makers in the right direction, recognizing that individual agencies will do their own detailed analysis. Given the different audiences that will be evaluating projects and the way that metrics might be used, the recommendation is to think about them in three tiers:

- Tier 1 is the easily understandable metric for use as a first order evaluation for decision makers. Addressed to policy makers, this tier evaluates the effects of Delta projects on water quality in the Delta and in export water supplies. The metric is to compare the baseline DSM2 run with runs incorporating various projects: the plot of base case and with-project average monthly salinities (or carbon if that is a constituent of concern) at Old River, Highway 4 with minimum, average, and maximum change quantified on graph. This metric addresses the magnitude of water quality changes, showing the seasonal variability in salinity. An example of Tier 1:



- Tier 2 is a more detailed evaluation than Tier 1, addressed to technical stakeholder groups. The same plot as Tier 1, it looks at water quality only at key points of interest and is broken down by year type, as opposed to averaging over the entire 16-year period since averaging does not provide information about water-year-type variability. An example of Tier 2:



- Tier 3 is individual agency analysis. Regardless of the metrics used by CALFED or project teams, individual stakeholders with an interest in projects will conduct their own analyses.

UOP is using the Tier 1 and Tier 2 metrics.

## IN-DELTA STORAGE METRICS

Pal Sandhu presented a table summarizing the performance metrics of the In-Delta Storage Program. He identified the resource (e.g., ecosystem, levees, water quality, water supply), the parameters (e.g., acres of habitat x, fish survival, miles of levee, salinity, discharge, storage), unit of measure, unit duration (e.g., instantaneous, daily or monthly average), location, period of interest (e.g., year-round, a season, months), and the tools/models used.

## ERP METRICS

Lauren Hastings updated the forum on ERP performance measures, which ERP is still working on. The measures have to be based on conceptual models. The intent is to have the conceptual models used by all programs and have them robust enough to use them in other regions. The models will consist of graphics and text. Performance measures will be linked to the conceptual models: the basis for quantitative models.

### **NEXT MEETING**

The next meeting of the Delta Technical Integration Forum will be **Wednesday afternoon, May 19**, at the CALFED Bay-Delta Authority (650 Capitol Mall, Fifth Floor, Delta Room). We have not yet confirmed whether the three-hour meeting will begin at 1:00 PM (the current meeting time) or up to one-half-hour later.